

COMPLETE LISTING OF CLAIMS

IN ASCENDING ORDER WITH STATUS INDICATOR

Claims 1-17 (canceled)

Claim 18 (previously presented) An apparatus operating on the basis of an operating clock for generating a tone signal in response to a sounding start instruction, the apparatus comprising:

- a tone generating block that is configured for generating tone signals for a plurality of sounding channels in a time division manner;
- a control data inputting block that is configured for inputting control data effective to specify a number of the sounding channels to be used;
- a clock control block that is configured on the basis of the control data for stopping a supply of the operating clock to the tone generating block in a given duration during which the specified number of the sounding channels are not used; and
- a sounding control block that is configured in accordance with the sounding start instruction for allocating tone signals corresponding to the sounding start instruction to the number of sounding channels determined on the basis of the control data, and for starting generation of the tone signals through the allocated sounding channels.

Claim 19 (previously presented) An apparatus operating on the basis of an operating clock for generating tone signals in response to a sounding start instruction, the apparatus comprising:

a tone generating block that is configured for generating tone signals for a plurality of sounding channels in a time division manner;

a sounding control block that is configured in accordance with the sounding start instruction for allocating tone signals corresponding to the sounding start instruction to the sounding channels, and for starting generation of the tone signals through the allocated sounding channels;

a volume detecting block that is configured for detecting a volume level of each of the sounding channels;

a control data generating block that is configured on the basis of the detected volume level of each sounding channel for generating control data effective to control a supply of the operating clock to each sounding channel; and

a clock control block that is configured on the basis of the control data for controlling the supply of the operating clock to the tone generating block.

Claim 20 (currently amended) A signal processing apparatus, comprising:

a signal processing block that is configured responsive to an operating clock for carrying out signal processing of a music tone by executing a program;

a program selecting block that is configured for selecting a program programs to be executed by the signal processing block and for setting the selected program programs to the signal processing block;

an operating block that is configured responsive to the operating clock for operating the signal processing block to execute a number of steps of the signal processing within one sampling period based on the set programs;

a control data generating block that is configured on the basis of the set program programs for generating control data indicative of a program part of the steps not valid or effective in the set program programs; and

a clock control block that is configured on the basis of the control data for stopping a supply of the operating clock to the signal processing block in a given duration corresponding to the program part of the steps of the set programs indicated by the control data;

an input unit for inputting a permitted number of steps on a setting screen of a display;

a determining block that is configured for determining if the inputted permitted number of steps is below the number of the steps of the set programs executed by the signal processing block, thereby making one or more of the set programs unexecutable;

an inquiry message on the display indicating whether to accept or decline the permitted number of steps as inputted if the inputted permitted number of steps is below the number of steps of the set programs executed by the signal processing block;

a damping block that is configured for damping an output of the programs made unexecutable and changing the control data according to the inputted permitted number of steps if a positive answer is inputted from a user to accept the permitted number of steps as inputted;

a canceling block that is configured for canceling the inputting of the permitted number of steps if a negative answer is inputted from the user to decline the inputted permitted number of steps; and

a changing block that is configured for changing the control data according to the inputted permitted number of steps when the inputted permitted number of steps is not below the number of the steps of the set programs executed by the signal processing block.

Claim 21 (previously presented) A method of operating a tone generator on the basis of an operating clock for generating a tone signal in response to a sounding start instruction, the method comprising the steps of:

configuring the tone generator for generating tone signals through a plurality of sounding channels in a time division manner;

inputting control data effective to specify a number of the sounding channels to be used;

stopping a supply of the operating clock to the tone generator according to the control data for a given duration during which the specified number of the sounding channels are not used;

allocating tone signals corresponding to the sounding start instruction to the number of sounding channels determined on the basis of the control data; and

starting generation of the tone signals through the allocated sounding channels.

Claim 22 (previously presented) A computer program having instructions for causing a computer to perform a method comprising the steps of:

configuring the tone generator for generating tone signals through a plurality of sounding channels in a time division manner;

inputting control data effective to specify a number of the sounding channels to be used;

stopping a supply of the operating clock to the tone generator according to the control data for a given duration during which the specified number of the sounding channels are not used;

allocating tone signals corresponding to the sounding start instruction to the number of sounding channels determined on the basis of the control data; and

starting generation of the tone signals through the allocated sounding channels.

Claim 23 (previously presented) A method of operating a tone generator on the basis of an operating clock for generating tone signals in response to a sounding start instruction, the method comprising the steps of:

configuring the tone generator for generating tone signals through a plurality of sounding channels in a time division manner;

allocating tone signals corresponding to the sounding start instruction to the sounding channels in accordance with the sounding start instruction;

starting generation of the tone signals through the allocated sounding channels;

detecting a volume level of each of the sounding channels;

generating control data effective to control a supply of the operating clock to each sounding channel on the basis of the detected volume level of each sounding channel; and

controlling the supply of the operating clock to the tone generator on the basis of the control data.

Claim 24 (previously presented) A computer program having instructions for causing a computer to perform a method comprising the steps of:

configuring the tone generator for generating tone signals through a plurality of sounding channels in a time division manner;

allocating tone signals corresponding to the sounding start instruction to the sounding channels in accordance with the sounding start instruction;

starting generation of the tone signals through the allocated sounding channels;

detecting a volume level of each of the sounding channels;

generating control data effective to control a supply of the operating clock to each sounding channel on the basis of the detected volume level of each sounding channel; and

controlling the supply of the operating clock to the tone generator on the basis of the control data.

Claim 25 (currently amended) A signal processing method comprising the steps of:

configuring a signal processor responsive to an operating clock for carrying out signal processing of a music tone by executing a program;

selecting a program programs to be executed by the signal processor and setting the selected program programs to the signal processor;

operating the signal processor in response to the operating clock to execute a number of steps of the signal processing within one sampling period based on the set programs;

generating control data indicative of a program part of the steps not valid or effective in the set program programs; and

stopping a supply of the operating clock to the signal processor in a given duration corresponding to the program part of the steps of the set programs indicated by the control data;

inputting a permitted number of steps on a setting screen of a display;

determining if the inputted permitted number of steps is below the number of the steps of the set programs executed by the signal processor, thereby making one or more of the set programs unexecutable;

indicating an inquiry message on the display to accept or decline the permitted number of steps as inputted if the inputted permitted number of steps is below the number of steps of the set programs executed by the signal processor;

damping an output of the programs made unexecutable and changing the control data according to the inputted permitted number of steps if a positive answer is inputted from a user to accept the permitted number of steps as inputted;

canceling the inputting of the permitted number of steps if a negative answer is inputted from the user to decline the inputted permitted number of steps; and

changing the control data according to the inputted permitted number of steps when the inputted permitted number of steps is not below the number of the steps of the set programs executed by the signal processor.

Claim 26 (currently amended) A computer program having instructions for causing a computer to perform a method comprising the steps of:

configuring a signal processor responsive to an operating clock for carrying out signal processing of a music tone by executing a program;

selecting a program programs to be executed by the signal processor and setting the selected program programs to the signal processor;

operating the signal processor in response to the operating clock to execute a number of steps of the signal processing within one sampling period based on the set programs;

generating control data indicative of a program part of the steps not valid or effective in the set program programs; and

stopping a supply of the operating clock to the signal processor in a given duration corresponding to the program part of the steps of the set programs indicated by the control data;

inputting a permitted number of steps on a setting screen of a display;

determining if the inputted permitted number of steps is below the number of the steps of the set programs executed by the signal processor, thereby making one or more of the set programs unexecutable;

indicating an inquiry message on the display to accept or decline the permitted number of steps as inputted if the inputted permitted number of steps is below the number of steps of the set programs executed by the signal processor;

damping an output of the programs made unexecutable and changing the control data according to the inputted permitted number of steps if a positive answer is inputted from a user to accept the permitted number of steps as inputted;

cancelling the inputting of the permitted number of steps if a negative answer is inputted from the user to decline the inputted permitted number of steps; and

changing the control data according to the inputted permitted number of steps when the inputted permitted number of steps is not below the number of the steps of the set programs executed by the signal processor.

Claim 27 (new) A signal processing apparatus, comprising:

a signal processing block that is configured responsive to an operating clock for carrying out signal processing of a music tone by executing a program;

a program selecting block that is configured for selecting programs to be executed by the signal processing block and for setting the selected programs to the signal processing block;

an operating block that is configured responsive to the operating clock for operating the signal processing block to execute a number of steps of the signal processing within one sampling period based on the set programs;

a control data generating block that is configured on the basis of the set programs for generating control data indicative of a part of the steps not valid or effective in one sampling period;

a clock control block that is configured on the basis of the control data for stopping a supply of the operating clock to the signal processing block in a given duration corresponding to the part of the steps of the set programs indicated by the control data;

an input unit for inputting a permitted number of steps on a setting screen of a display;

a changing block that is configured for changing the control data according the inputted permitted number of steps;

a detecting block that is configured for detecting a number of free steps not used by the signal processing block based on the inputted permitted number of steps and the number of the steps executed by the signal processing block;

a menu of programs listed on the display, which can be selectable within the detected number of free steps;

a selecting block configured to select a program from the menu and setting the selected program to the signal processing block.

Claim 28 (new) A signal processing method comprising the steps of:

configuring a signal processor responsive to an operating clock for carrying out signal processing of a music tone by executing a program;

selecting programs to be executed by the signal processor and setting the selected programs to the signal processor;

operating the signal processor in response to the operating clock to execute a number of steps of the signal processing within one sampling period based on the set programs;

generating control data indicative of a part of the steps not valid or effective in one sampling period;

stopping a supply of the operating clock to the signal processor in a given duration corresponding to the part of the steps of the set programs indicated by the control data;

inputting a permitted number of steps on a setting screen of a display and changing the control data according the inputted permitted number of steps;

detecting a number of free steps not used by the signal processor based on the inputted permitted number of steps and the number of the steps executed by the signal processor;

listing a menu of programs on the display, which can be selectable within the detected number of free steps; and

selecting a program from the menu and setting the selected program to the signal processor.

Claim 29 (new) A computer program having instructions for causing a computer to perform a method comprising the steps of:

configuring a signal processor responsive to an operating clock for carrying out signal processing of a music tone by executing a program;

selecting programs to be executed by the signal processor and setting the selected programs to the signal processor;

operating the signal processor in response to the operating clock to execute a number of steps of the signal processing within one sampling period based on the set programs;

generating control data indicative of a part of the steps not valid or effective in one sampling period;

stopping a supply of the operating clock to the signal processor in a given duration corresponding to the part of the steps of the set programs indicated by the control data;

inputting a permitted number of steps on a setting screen of a display and changing the control data according the inputted permitted number of steps;

detecting a number of free steps not used by the signal processor based on the inputted permitted number of steps and the number of the steps executed by the signal processor;

listing a menu of programs on the display, which can be selectable within the detected number of free steps; and

selecting a program from the menu and setting the selected program to the signal processor.

Claim 30 (new) A signal processing apparatus, comprising:

- a signal processing block that is configured responsive to an operating clock for carrying out signal processing by executing a program;
- a program selecting block that is configured for selecting a program to be executed by the signal processing block and for setting the selected program to the signal processing block;
- an operating block that is configured responsive to the operating clock for operating the signal processing block to execute a number of steps of various instructions for the signal processing within one sampling period based on the set program, the various instructions including a clock-off instruction and a clock-on instruction;
- a detecting block that is configured for detecting an inactive range of steps in the number of steps executed by the signal processing block;
- a writing block that is configured for writing the clock-off instruction and the clock-on instruction into the program set in the signal processing block according to the detected inactive range of steps;
- a control data generating block that is configured for generating control data indicative of a part of steps not valid or effective and ranging from a step of executing the clock-off instruction to another step for executing the clock-on instruction in the set program; and
- a clock control block that is configured on the basis of the control data for stopping a supply of the operating clock to the signal processing block in a given duration corresponding to the part of the steps of the set program indicated by the control data.

Claim 31 (new) A signal processing method comprising the steps of:

configuring a signal processor responsive to an operating clock for carrying out signal processing of a music tone by executing a program;

selecting a program to be executed by the signal processor and setting the selected program to the signal processor;

operating the signal processor in response to the operating clock to execute a number of steps of various instructions for the signal processing within one sampling period based on the set program, the various instructions including a clock-off instruction and a clock-on instruction;

detecting an inactive range of steps in the number of steps executed by the signal processor;

writing the clock-off instruction and the clock-on instruction into the program set in the signal processor according to the detected inactive range of steps;

generating control data indicative of a part of steps not valid or effective and ranging from a step for executing the clock-off instruction to another step for executing the clock-on instruction in the set program; and

stopping a supply of the operating clock to the signal processor in a given duration corresponding to the part of the steps of the set program indicated by the control data.

Claim 32 (new) A computer program having instructions for causing a computer to perform a method comprising the steps of:

configuring a signal processor responsive to an operating clock for carrying out signal processing of a music tone by executing a program;

selecting a program to be executed by the signal processor and setting the selected program to the signal processor;

operating the signal processor in response to the operating clock to execute a number of steps of various instructions for the signal processing within one sampling period based on the set program, the various instructions including a clock-off instruction and a clock-on instruction;

detecting an inactive range of steps in the number of steps executed by the signal processor;

writing the clock-off instruction and the clock-on instruction into the program set in the signal processor according to the detected inactive range of steps;

generating control data indicative of a part of steps not valid or effective and ranging from a step for executing the clock-off instruction to another step for executing the clock-on instruction in the set program; and

stopping a supply of the operating clock to the signal processor in a given duration corresponding to the part of the steps of the set program indicated by the control data.